

Effect of yellow stripe scad (YSS) fish consumption on platelet microparticles markers: can YYS fish be like salmon in overweight healthy individual?

ABSTRACT

Overweight and obesity is currently a growing burden, according several research data from National Health and Morbidity Survey (NHMS) in Malaysia, shows that in 1999 overweight were at 16,6%, obesity 4.5%; in 2006, overweight were at 29.1%, obesity 14%, in 2011 overweight were, 29.4%, obesity 15.1% and in 2015 overweight were 30%, obesity 17.7%. Suggesting that there is parallel prevalence increase, in this sedentary life style in 2015 compared to 1999. Overweight and obesity affects multiple factor such as shifting lifestyles, urbanization, rising income and influence the genetic make-up of life. Currently, it is a great concerned in Malaysia, because it is a risk factor for most inflammatory disease such as cardiovascular disease, cancer and type 2 diabetes, stroke and chronic inflammatory disease, Recent information by Malaysian health minister, won that the country is facing overweight and obesity pandemic problem showing that half of Malaysian population were either overweight or obese. In addition, the latest estimates from the World Health Organization (WHO), show that almost 14% of the country's citizens fall under the "obese" category in Malaysia. A further 40% are overweight. Evidence has shown that PMPs interact with sub-endothelial matrix to mobilise monocytes and neutrophils that favour foam cells formation. PMPs play an important role in the transport and delivery of bioactive molecules that can signal inflammation and promote aberrant angiogenesis in diseases such as atherosclerosis, diabetic retinopathy and cancers in overweight. PMPs may affect target cells either by stimulating them via surface-expressed ligands or by transferring surface receptors from one cell to the others. The modulation effect of omega-3 fatty acid (EPA/DHA) from salmon on platelets and endothelial cell markers has been established. American Heart Foundation in collaboration with Committee on Evaluation, Prevention and Detection recommends 250 to 300 mg of cooked salmon per day for the treatment of high blood pressure and cardiovascular diseases. Yellow stripe scad (YSS) is a local Malaysian fish, recently identified to increase HDL-C in overweight subjects. However, the atheroprotective effect of omega-3 fatty acid from YYS on PMPs markers in overweight and obese healthy individuals is still unclear. Thus, the aim of this article is to explore the nutritional value (EPA/DHA) of YYS Fish fillet on platelet microparticles markers that predetermine overweight and obesity risk factors of atherosclerosis.

Keyword: Overweight; Leptin; Platelet activation; Platelet microparticles markers; YYS

